

APPENDIX B

Historical Record of Escapements to  
Inland Fisheries and Spawning Areas

APPENDIX B TABLES  
 Historical Record of Escapements to Inland Fisheries and Spawning Areas

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Table B-1. California Central Valley natural fall-run chinook salmon spawning escapements (thousands of fish), 1970-1985.<sup>a/</sup>

Year	Upper Sacramento R. <sup>a/</sup>		Feather R.		Yuba R.		American R.		Lower Sacramento Totals		Sacramento R. Totals		San Joaquin R. Totals		Central Valley Totals	
	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks
1970	64.0	21.0	45.0	13.0	12.0	2.0	26.0	3.0	83.0	18.0	147.0	39.0	30.0	8.0	177.0	47.0
1971	62.6	24.4	34.0	10.0	5.3	0.4	36.0	6.0	75.3	16.4	137.9	40.8	40.0	4.0	177.9	44.8
1972	35.0	20.0	27.0	16.0	4.0	5.0	13.0	4.0	44.0	25.0	79.0	45.0	12.0	2.0	91.0	47.0
1973	48.0	19.0	52.0	13.0	22.0	2.0	77.0	5.0	151.0	20.0	199.0	39.0	6.5	0.7	205.5	39.7
1974	66.0	16.0	54.0	7.0	16.0	1.0	52.0	2.0	122.0	10.0	188.0	26.0	3.7	0.7	191.7	26.7
1975	71.0	25.0	35.0	3.0	5.0	1.0	29.0	3.0	69.0	7.0	140.0	32.0	5.8	0.9	145.8	32.9
1976	79.0	14.0	50.0	6.0	3.3	0.5	22.0	1.0	75.3	7.5	154.3	21.5	3.5	0.5	157.8	22.0
1977	51.0	31.0	36.0	2.0	7.0	2.0	40.0	2.0	83.0	6.0	134.0	37.0	0.6	0.1	134.6	37.5
1978	76.0	10.0	29.0	4.0	6.0	1.0	12.0	1.0	47.0	6.0	123.0	16.0	2.3	0.3	125.3	16.3
1979	77.0	44.0	25.0	3.0	10.0	2.0	36.0	1.0	71.0	6.0	148.0	50.0	4.0	0.5	152.0	50.5
1980	53.0	15.0	30.0	2.0	10.0	2.0	32.0	2.0	72.0	6.0	125.0	21.0	5.0	1.0	130.0	22.0
1981	51.0	35.0	41.0	4.0	12.0	2.0	38.0	5.0	91.0	11.0	142.0	46.0	14.0	14.0	156.0	60.0
1982	37.0	17.0	41.0	7.0	20.0	13.0	29.0	4.0	90.0	24.0	127.0	41.0	14.0	3.0	141.0	44.0
1983	40.6	24.7	19.1	4.5	11.4	2.4	19.0	7.4	49.5	14.3	90.1	39.0	11.6	33.8	101.7	72.8
1984 <sup>b/</sup>	54.6	21.6	35.1	6.5	7.1	2.6	25.2	2.2	67.4	11.3	122.0	32.9	41.1	15.9	163.1	48.8
1985 <sup>b/</sup>	94.0	21.2	39.1	6.9	7.6	1.4	35.6	4.4	82.3	12.7	176.3	33.9	60.9	5.1	237.2	39.0

a/ Upper Sacramento jack estimates based on Red Bluff Diversion Dam samples. All other estimates generally based on carcass surveys. Upper River estimates also include Tehama Colusa Spawning Channel.

b/ Preliminary.

Table B-2. California Central Valley hatchery fall-run chinook salmon spawning escapements (thousands of fish), 1970-1985.<sup>a/</sup>

Year	Coleman H. <sup>b/</sup>		Feather R.		Nimbus H.		Sacramento R. Totals		Mokelumne R.		Merced R.		San Joaquin R. Totals		Central Valley Totals	
	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks
1970	3.0	0.5	2.4	0.9	7.8	0.8	13.2	2.2	0.3	0.2	0.0	0.0	0.3	0.2	13.5	2.4
1971	1.5	0.5	2.3	1.2	7.9	1.3	11.7	3.0	0.8	0.1	0.2	0.0	1.0	0.1	12.7	3.1
1972	1.6	1.2	1.4	2.2	5.4	1.7	8.4	5.1	0.1	0.3	0.1	0.0	0.2	0.3	8.6	5.4
1973	3.0	0.8	7.2	1.3	10.8	1.7	21.0	3.8	0.3	0.1	0.3	0.1	0.6	0.2	21.6	4.0
1974	1.3	0.3	4.3	1.1	7.3	0.7	12.9	2.1	0.1	0.1	0.9	0.1	1.0	0.2	13.9	2.3
1975	1.8	0.6	4.2	1.1	6.6	0.8	12.6	2.5	0.2	0.2	0.6	0.0	0.8	0.2	13.4	2.7
1976	1.8	0.5	4.3	0.9	4.3	0.9	10.4	2.3	0.0	0.0	0.6	0.0	0.6	0.0	11.0	2.3
1977	4.7	0.5	9.6	2.8	6.4	0.5	20.7	3.8	0.0	0.0	0.4	0.0	0.4	0.0	21.1	3.8
1978	1.1	0.8	3.9	0.9	6.1	2.1	11.1	3.8	0.5	0.0	0.0	0.0	0.5	0.0	11.6	3.8
1979	4.7	3.9	3.6	0.6	7.0	3.2	15.3	7.7	0.5	0.0	0.1	0.1	0.6	0.1	15.9	7.8
1980	8.8	0.7	3.0	0.7	13.5	2.0	25.3	3.4	0.4	0.2	0.2	0.0	0.6	0.2	25.9	3.6
1981	5.7	7.5	7.3	1.0	17.8	2.8	30.8	11.3	1.0	0.4	0.6	0.3	1.6	0.7	32.4	12.0
1982	16.2	3.3	6.4	1.2	8.1	2.8	30.7	7.3	1.8	0.9	0.2	0.0	2.0	0.9	32.7	8.2
1983	5.4	3.4	6.1	1.6	6.4	2.5	17.9	7.5	1.7	2.9	0.2	1.6	1.9	4.5	19.8	12.0
1984	19.2	2.4	8.9	0.4	10.2	2.0	38.3	4.8	0.8	0.2	1.7	0.2	2.5	0.4	40.8	5.2
1985	12.5	4.3	5.6	2.0	10.3	2.0	28.4	8.3	0.2	0.0	1.2	0.1	1.4	0.1	29.8	8.4
GOALS	9.0	-	5.0	-	6.0	-	20.0	-	c/	-	c/	-	5.5	-	25.5	-

a/ Counts of less than 50 fish are shown as 0.0.

b/ Fall spawning fish. Some spring run are included.

c/ Combined hatchery goal for San Joaquin is 5.5 adults.

Table B-3. Sacramento River late-fall, winter, and spring chinook salmon spawning escapement estimates (thousands of fish), 1971-1985 and the 1971-1975 average.

Year	Upper Sacramento River <sup>a/</sup>						Feather R.		Spring Totals		Grand Totals	
	Late-fall <sup>b/</sup>		Winter		Spring		Springs <sup>c/</sup>		Adults	Jacks	Adults	Jacks
	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks				
1971	14.3	2.7	35.8	17.2	4.2	1.8	0.5	0.0	4.7	1.8	54.8	21.7
1972	30.3	2.7	27.0	8.1	5.9	1.1	0.3	0.0	6.2	1.1	63.5	11.9
1973	21.3	0.7	18.6	4.4	5.8	1.2	0.2	0.0	6.0	1.2	45.9	6.3
1974	5.5	0.5	15.6	3.4	2.8	1.2	0.2	0.0	3.0	1.2	24.1	5.1
1975	17.1	0.9	15.6	7.4	6.7	3.3	0.7	0.0	7.4	3.3	40.1	11.6
1971-1975 Average	17.7	1.5	22.5	8.1	5.1	1.7	0.4	0.0	5.5	1.7	45.7	11.3
1976	15.3	0.7	24.9	8.1	21.0	4.0	0.7	0.0	21.7	4.0	61.9	12.8
1977	8.1	0.9	14.0	2.0	7.9	5.1	0.2	0.0	8.1	5.1	30.2	8.0
1978	10.7	1.3	24.0	1.1	5.2	0.8	0.2	0.0	5.4	0.8	40.1	3.2
1979	9.8	0.2	1.9	0.1	2.3	0.7	0.3	0.0	2.6	0.7	14.3	1.0
1980	8.3	0.7	0.4	0.6	6.3	2.7	0.7	0.0	7.0	2.7	15.7	4.0
1981	6.3	0.7	18.3	1.7	12.9	8.1	0.8	0.2	13.7	8.3	38.3	10.7
1982	4.1	0.8	0.9	0.3	21.0	4.4	1.8	0.2	22.8	4.6	27.8	5.7
1983	12.9	2.3	1.1	0.7	5.3	1.0	1.6	0.1	6.9	1.1	20.9	4.1
1984 <sup>d/</sup>	6.5	3.9	0.8	1.8	3.7	4.1	1.3	0.3	5.0	4.4	12.3	10.1
1985 <sup>d/</sup>	7.9	2.1	4.6	0.4	8.6	4.5	1.6	0.1	10.2	4.6	22.7	7.1

a/ Jack percentages based on sampling at Red Bluff Dam.

b/ Variable numbers of late-fall fish were trapped at Keswick Dam and spawned at Coleman Hatchery.

c/ Primarily fish spawned at Feather Hatchery.

d/ Preliminary.

Table B-4. Summary of Klamath River fall-run chinook salmon estimates in thousands of adults and jacks, 1978-1985.<sup>a/</sup>

Estimate	YEAR															
	1978		1979		1980		1981		1982		1983		1984		1985	
	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks
INRIVER RUN SIZE	91.0	22.5	50.1	11.5	44.5	36.6	77.3	27.8	65.2	39.0	57.9	3.8	43.3	8.8	59.3	64.5
INRIVER HARVEST																
Indian	18.2	1.8	13.7	1.4	12.0	1.0	33.0	2.5	14.5	1.8	7.9	0.2	18.5	0.5	11.6	1.6
Sport	<u>1.7</u>	<u>2.1</u>	<u>2.1</u>	<u>2.2</u>	<u>4.5</u>	<u>5.9</u>	<u>6.0</u>	<u>7.3</u>	<u>8.3</u>	<u>12.5</u>	<u>4.3</u>	<u>0.4</u>	<u>2.1</u>	<u>1.6</u>	<u>3.8</u>	<u>10.4</u>
Total	19.9	3.9	15.8	3.5	16.5	6.9	39.0	9.7	22.8	14.3	12.2	0.5	20.6	2.0	15.4	12.0
SPAWNING ESCAPEMENT																
Klamath River																
Hatchery	6.9	0.9	2.3	0.3	2.4	0.5	2.1	0.5	8.4	1.8	8.4	0.5	5.3	0.8	19.4	2.7
Natural	<u>27.4</u>	<u>11.7</u>	<u>22.2</u>	<u>2.8</u>	<u>13.4</u>	<u>9.9</u>	<u>18.6</u>	<u>10.6</u>	<u>22.7</u>	<u>10.5</u>	<u>13.5</u>	<u>1.6</u>	<u>10.5</u>	<u>1.9</u>	<u>16.5</u>	<u>6.5</u>
Total	34.4	12.7	24.5	3.0	15.8	10.3	20.7	11.2	31.0	12.3	21.9	2.1	15.8	2.6	35.9	9.2
Trinity River																
Hatchery	6.0	1.3	1.3	1.0	4.1	2.3	2.4	1.0	2.1	4.2	5.8	0.3	1.9	0.7	1.8	15.8
Natural	<u>31.1</u>	<u>4.7</u>	<u>8.4</u>	<u>4.0</u>	<u>8.1</u>	<u>17.1</u>	<u>15.3</u>	<u>5.9</u>	<u>9.3</u>	<u>8.1</u>	<u>18.0</u>	<u>0.9</u>	<u>5.0</u>	<u>3.5</u>	<u>6.3</u>	<u>27.5</u>
Total	37.1	6.0	9.7	5.0	12.2	19.4	17.7	6.9	11.3	12.4	23.8	1.2	6.9	4.2	8.0	43.4
TOTAL ESCAPEMENT																
Hatchery	13.0	2.2	3.6	1.2	6.5	2.7	4.4	1.5	10.4	6.1	14.1	0.8	7.2	1.4	21.2	18.5
Natural	<u>58.5</u>	<u>16.4</u>	<u>30.6</u>	<u>6.8</u>	<u>21.5</u>	<u>27.0</u>	<u>33.9</u>	<u>16.5</u>	<u>32.0</u>	<u>18.6</u>	<u>31.5</u>	<u>2.5</u>	<u>15.4</u>	<u>5.4</u>	<u>22.8</u>	<u>34.0</u>
Total	71.5	18.7	34.3	8.0	28.0	29.7	38.3	18.1	42.4	24.7	45.7	3.3	22.7	6.8	44.0	52.5

a/ Totals may not always agree due to rounding.

Table B-5. Estimates of Hoopa Valley Reservation Indian gillnet harvest, 1977-1985.<sup>a/</sup>

Year	Area	Chinook Salmon (numbers of fish)					
		Spring Race			Fall Race		
		Jack	Adult	Total	Jack	Adult	Total
1977	Total			b/	2,700	27,300	30,000
1978	Total			b/	1,800	18,200	20,000
1979	Total			b/	1,350	13,650	15,000
1980	Estuary	-	-		495	9,605	10,100
	K. Glen-Pecwan	-	-		151	849	1,000
	Pecwan-Weitchpec	-	-		121	679	800
	Trinity River	-	-		220	880	1,100
	Total	20	980	1,000	987	12,013	13,000
1981	Estuary	21	1,320	1,341	912	23,097	24,009
	Resighinni	0	16	16	338	4,293	4,631
	Upper Klamath	19	381	400	766	4,112	4,878
	Trinity River	17	1,090	1,107	449	1,531	1,980
	Total	57	2,807	2,864	2,465	33,033	35,498
1982	Estuary	3	172	175	290	4,547	4,837
	Resighinni	11	789	800	368	3,551	3,919
	Upper Klamath	21	1,479	1,500	827	4,873	5,700
	Trinity River	10	715	725	314	1,511	1,825
	Total	45	3,155	3,200	1,799	14,482	16,281
1983	Estuary	1	59	60	12	800	812
	Middle Klamath	3	322	325	32	2,626	2,658
	Upper Klamath	1	129	130	89	3,074	3,163
	Trinity River	5	75	80	30	1,390	1,420
	Total	10	585	595	163	7,890	8,053
1984	Estuary	2	53	55	126	11,547	11,673
	Middle Klamath	8	147	155	109	3,042	3,151
	Upper Klamath	2	47	49	78	2,925	2,803
	Trinity River	0	380	380	140	1,170	1,310
	Total	12	627	639	453	18,484	18,937
1985 <sup>c/</sup>	Estuary	29	580	609	132	5,700	5,832
	Middle Klamath	6	184	190	283	1,731	2,014
	Upper Klamath	10	310	320	193	2,194	2,387
	Trinity River	115	1,000	1,115	947	1,941	2,888
	Total	160	2,074	2,234	1,555	11,566	13,121

a/ USFWS estimates for 1977-1982 and for Klamath River portion in 1983-1985. The Fisheries Department of the Hoopa Valley Business Council monitored the Trinity River fishery in 1983 and 1984.

b/ No estimate.

c/ Does not include fall chinook harvested under special ceremonial permit.

Table B-6. Shasta River fall chinook salmon counts, 1930-1985.<sup>a/</sup>

Season	Adults	Jacks	Total	Season	Adults	Jacks	Total
1930	7,280	12,082	19,362	1958	4,694	1,379	6,073
1931	61,811	20,037	81,848	1959	8,619	1,256	9,875
1932	30,534	5,058	35,592	1960	9,489	1,209	10,698
1933 <sup>b/</sup>	4,700	6,886	11,586	1961	5,250	3,514	8,764
1934	26,614	21,807	48,421	1962	9,907	4,991	14,898
1935	63,711	9,660	73,371	1963	22,825	9,012	31,837
1936	33,264	14,669	47,933	1964	30,715	3,648	34,363
1937	32,027	1,229	33,256	1965	7,136	775	7,911
1938	6,497	1,118	7,615	1966	5,573	451	6,024
1939	8,313	19,670	27,983	1967	10,478	1,836	12,314
1940	50,725	4,431	55,156	1968	13,039	1,003	14,042
1941	7,372	5,860	13,232	1969	10,576	3,049	13,625
1942	9,342	1,834	11,176	1970	12,693	712	13,405
1943	8,048	1,974	10,022	1971	4,970	1,649	6,619
1944	8,604	2,686	11,290	1972	2,802	839	3,641
1945	14,905	3,291	18,196	1973	4,516	4,902	9,418
1946	6,949	641	7,590	1974	7,376	2,729	10,105
1947	298	43	341	1975	11,821	4,211	16,032
1948	31	6	37	1976 <sup>c/</sup>	4,154	1,919	6,073
1949	171	21	192	1977	5,478	1,969	7,447
1950	--Incomplete Count--			1978	12,024	6,707	18,731
1951	1,565	459	2,024	1979	7,111	1,040	8,151
1952	1,488	178	1,666	1980	3,762	4,334	8,096
1953	1,444	161	1,605	1981	7,890 <sup>d/</sup>	4,330	12,220
1954	1,768	857	2,625	1982	6,533	1,922	8,443
1955	1,620	197	1,817	1983	3,119	753	3,372
1956	--No Count--			1984	2,362	480	2,842
1957	1,781	453	2,234	1985	2,897	2,227	5,124

a/ Updated 12/12/85. From 1930-1937 and 1957-1985 the counts were made near the river mouth; from 1938-1955 they were made 6.5 miles upstream from the mouth. Considerable spawning occurred downstream from the racks in these years.

b/ Commercial fishing in lower Klamath River closed by state after this season.

c/ Gillnetting resumed in lower 20 miles of Klamath River by Hoopa Valley Indian Reservation fishermen 1976-1985.

d/ Includes 276 females taken to Iron Gate Hatchery.

Table B-7. Summary of California north coast spawning stock surveys for the years 1963-1986.<sup>a/</sup>

Year	Number of Surveys	Canon Creek, <sup>b/</sup>		Number of Surveys	Sprowl Creek, <sup>c/</sup>		Eel River	
		Chinook	Mad River Coho		Chinook	Eel River Coho		
1963-1964	12	70	55		-	-		
1964-1965	NA	45	0		-	-		
1965-1966		-	-		-	-		
1966-1967	NA	334	3	3	1,189	6		
1968-1969		-	-		-	-		
1969-1970		-	-		-	-		
1970-1971	NA	230	0		-	-		
1971-1972		-	-		-	-		
1972-1973		-	-		-	-		
1973-1974		-	-		-	-		
1974-1975		-	-	1	247	0		
1975-1976		-	-	1	339	2		
1976-1977		-	-		-	-		
1977-1978		-	-		-	-		
1978-1979		-	-	2	534	23		
1979-1980		-	-	2	572	0		
1980-1981		-	-	1	164	4		
1981-1982	3	23	0	2	121	0		
1982-1983	3	68	0	6	169	1		
1983-1984	2	137	0	2	82	0		
1984-1985 <sup>d/</sup>	1	16	0	6	67	13		
1985-1986	8	494 <sup>e/</sup>	10	5	304 <sup>e/</sup>	0		

a/ Numbers reflect peak daily counts of live fish and carcasses with adults and jacks combined. Counts in years of poor visibility are not shown.

b/ Survey area was from mouth to falls (2 miles).

c/ Survey area was the mainstem and the West Fork (4.5 miles).

d/ Low flows this season appeared to increase main stem spawning and decrease tributary spawning.

e/ Preliminary.

Table B-8. Peak index counts for southern migrating and localized Oregon coastal chinook stocks on selected fall chinook spawning stream surveys, 1960-1985.<sup>a/</sup>

Year	<u>Pistol River</u>	<u>Chetco River</u>	<u>Winchuck River</u>
	Deep Creek	Big Emily Creek	Bear Creek
1960	1(0)	-	-
1961	5(1)	-	-
1962	11(2)	-	-
1963	7(0)	-	-
1964	12(0)	-	32(2)
1965	0	-	14(0)
1966	88(6)	-	30(3)
1967	3(1)	-	31(0)
1968	10(1)	-	59(2)
1969	-	-	31(2)
1970	-	-	-
1971	7(0)	331(28)	15(0)
1972	7(0)	355(11)	-
1973	8(2)	106( 8)	52(6)
1974	2(0)	100( 0)	13(0)
1975	2(0)	-	-
1976	-	63(22)	2(2)
1977	5(0)	-	30(1)
1978	-	281(36)	33(0)
1979	-	134(30)	20(3)
1980	-	146(39)	13(0)
1981	15(5)	96(21)	10(0)
1982	26(1)	96(12)	14(1)
1983	43(4)	42( 4)	13(1)
1984 <sup>b/</sup>	13(2)	27( 4)	16(1)
1985 <sup>b/</sup>	39(1)	99( 8)	10(4)

a/ Figure in parenthesis is the number of jacks included in the total number of fish.

b/ Preliminary.

Table B-9. Counts of wild and hatchery spring chinook salmon at Gold Ray Dam on the Rogue River and at Winchester Dam on the North Umpqua River (1960-1985).<sup>a/</sup>

Year	Number of Fish <sup>b/</sup>									
	Gold Ray Dam, Rogue River					Winchester Dam, Umpqua River				
	Total Returns		Adults	Jacks	Combined	Total Returns		Adults	Jacks	Combined
Wild <sup>c/</sup>	Hatchery <sup>c/</sup>	Wild				Hatchery				
1960			19,977	6,240	24,374	3,386	664	3,594	456	4,050
1961			27,155	5,880	31,775	4,370	883	4,711	542	5,253
1962			27,100	5,551	31,395	3,333	927	3,659	601	4,260
1963			34,260	7,267	40,567	8,684	2,336	9,222	1,798	11,020
1964			31,556	6,176	37,327	6,565	2,238	5,792	3,011	8,803
1965			39,831	7,815	47,646	9,028	2,702	8,631	30,99	11,730
1966			28,032	3,392	31,424	6,668	601	5,967	1,302	7,269
1967			12,276	2,416	14,692	6,482	2,554	4,416	4,890	9,036
1968			13,611	8,428	22,039	6,196	3,066	4,992	4,270	9,262
1969			52,257	6,786	59,043	11,419	9,358	17,053	3,024	20,077
1970			37,325	7,775	45,100	6,057	6,913	10,603	2,367	12,970
1971	28,091	1,124	23,230	6,243	29,473	6,028	3,902	7,360	2,570	9,930
1972	29,673	818	25,209	5,581	30,790	7,949	8,474	9,801	7,342	16,423
1973	34,582	583	30,304	4,977	35,281	11,431	8,243	16,465	3,209	19,674
1974	15,977	500	13,280	3,468	16,748	5,755	5,143	8,722	2,176	10,898
1975	20,224	909	17,589	3,899	21,488	5,412	5,178	7,009	3,581	10,590
1976	19,610	1,095	15,283	6,285	21,568	5,520	5,177	6,432	4,265	10,697
1977	14,811	1,518	13,198	3,202	16,400	6,806	5,457	8,739	3,524	12,263
1978	39,216	6,799	35,886	11,330	47,216	5,412	2,811	5,441	2,782	8,223
1979	28,390	8,617	32,599	5,609	38,208	5,541	3,966	6,337	3,170	9,507
1980	26,130	10,330	28,909	8,023	36,932	5,679	1,907	5,471	2,115	7,586
1981	11,666	5,127	14,208	3,005	17,213	4,645	4,057	6,686	2,016	8,702
1982 <sup>d/</sup>	20,352	8,334	19,798	10,144	29,942	6,484	1,989	5,135	3,338	8,473
1983	8,579	3,515	7,858	4,653	12,341	2,982	2,867	4,021	1,828	5,849
1984	6,771	5,318	8,720	3,829	12,549	4,527	2,415	5,065	1,877	6,942
1985 <sup>e/</sup>	19,688	19,802	25,357	15,502	41,039	7,469	6,061	9,904	3,626	13,530
1971-1984 Average	21,719	3,899	20,434	5,732	26,154	6,012	4,399	7,283	3,128	10,411

a/ Historical Gold Ray Dam counts revised to eliminate small numbers of fall chinook counted.

b/ Jacks included in wild, hatchery, and total counts.

c/ Determined by scale analysis of wild and hatchery fish through July 31 only. Total combined Gold Ray Dam escapements reflect complete run counts through August 15.

d/ First year of major chinook returns (4-year-old fish) following closure of Lost Creek Dam and creation of an impoundment on the Rogue River.

e/ Preliminary.

Table B-10. Average number of fall chinook captured per beach seine haul on the lower Rogue River (river mile 8), 1974-1985.

Year	Adults	Jacks	Total
1974	-	-	1.04
1975	1.12	0.19	1.31
1976	0.46	0.43	0.89
1977	0.36	0.95	1.31
1978	2.01	0.59	2.60
1979	2.60	0.17	2.77
1980	0.81	0.47	1.28
1981	1.20	0.45	1.65
1982	1.30	0.54	1.84
1983 <sup>a/</sup>	0.57	0.10	0.67
1984 <sup>b/c/</sup>	0.24	0.13	0.37
1985 <sup>b/</sup>	0.56	0.57	1.13
1975-1984 Average	1.07	0.40	1.47

a/ Seining efficiency in 1983 was estimated to be 40 percent lower than in past years as a result of high water flows resulting from Lost Creek Dam releases. Estimated based on seining catch rates of hatchery coho (marked to unmarked ratios) compared to returns to Cole River Hatchery and correlation of chinook catch rate and standardized spawning survey carcass counts.

b/ Preliminary.

c/ River flow in 1984 was the highest on record for July through mid-September and impacted seining efficiencies as in 1983 (see footnote a/), although the specific levels of impact are not available.

Table B-11. Peak index counts for northerly migrating Oregon coastal chinook stocks on selected fall chinook spawning index stream surveys, 1950-1985.

River	Nehalem	Tillamook	Nestucca	Siletz	Yaquina	Alsea	Siuslaw	Coos	Coguille	Sixes
Tribe	Humburg	Tillamook	Niagara	Sunshine	Grant	Buck	Lake	M.F. Mitlicoma	Salmon	Lower Dry Creek
Date	1950	13(0) <sup>a/</sup>	-	5(1)	-	91(23)	-	-	-	-
	1951	34(8)	-	11(0)	105(0)	-	-	-	-	-
	1952	23(2)	115(0)	137(2)	226(46)	69(20)	-	-	-	-
	1953	66(15)	34(13)	7(0)	34(0)	1(0)	29(10)	-	14(1)	-
	1954	41(15)	22(9)	15(0)	56(1)	6(0)	-	-	-	-
	1955	29(18)	7(4)	42(7)	112(46)	24(19)	-	-	-	-
	1956	42(3)	12(7)	11(0)	69(36)	1(0)	2(1)	-	-	-
	1957	74(24)	36(13)	104(19)	97(27)	33(9)	25(8)	-	13(2)	-
	1958	69(11)	83(12)	51(2)	88(6)	-	58(16)	-	16(7)	-
	1959	68(6)	104(14)	36(0)	74(4)	5(2)	40(5)	-	7(0)	-
	1960	134(80)	100(47)	97(29)	46(21)	31(9)	19(8)	-	-	-
	1961	104(8)	166(36)	69(4)	63(11)	52(1)	46(8)	48(22)	6(3)	24(14)
	1962	78(9)	117(22)	47(8)	160(29)	47(15)	13(5)	16(4)	2(0)	1(0)
	1963	133(37)	150(22)	90(2)	80(13)	51(12)	29(2)	2(2)	2(2)	3(0)
	1964	126(14)	163(29)	53(8)	25(7)	29(7)	247(35)	1(0)	11(2)	-
	1965	143(43)	111(18)	125(2)	40(8)	78(34)	45(14)	39(11)	2(0)	140(49)
	1966	103(8)	110(25)	80(7)	42(6)	82(15)	62(20)	122(11)	6(1)	74(19)
	1967	66(2)	158(41)	61(6)	42(3)	48(13)	26(14)	414(31)	7(0)	17(0)
	1968	46(2)	110(29)	43(2)	23(4)	41(9)	30(12)	84(32)	0(0)	20(4)
	1969	31(2)	54(13)	36(8)	10(3)	88(20)	15(2)	192(52)	8(2)	7(0)
	1970	57(3)	168(29)	47(8)	60(9)	115(10)	77(34)	332(76)	12(0)	59(23)
	1971	94(10)	39(4)	36(1)	45(5)	95(17)	46(8)	59(10)	43(22)	22(5)
	1972	117(46)	66(12)	92(10)	41(14)	48(12)	5(2)	144(56)	20(12)	12(4)
	1973	167(28)	85(1)	65(4)	47(0)	52(4)	24(4)	-	22(1)	18(0)
	1974	157(16)	49(4)	42(0)	49(2)	93(0)	13(0)	199(68)	44(28)	20(7)
	1975	100(28)	-	0(0)	30(12)	10(1)	166(60)	26(4)	27(9)	136(13)
	1976	174(39)	40(5)	0(0)	47(2)	1(0)	262(74)	52(24)	0(0) <sup>b/</sup>	27(7)
	1977	170(12)	58(2)	16(2)	28(0)	15(2)	241(60)	27(8)	14(7)	173(26)
	1978	172(6)	70(8)	34(3)	28(0)	181(6)	139(24)	60(18)	43(3)	137(10)
	1979	170(2)	47(2)	53(3)	105(7)	50(10)	140(12)	59(24)	41(8)	190(11)
	1980	93(3)	120(14)	65(1)	46(2)	48(2)	234(16)	95(65)	105(31)	88(9)
	1981	149(1)	100(6)	42(1)	70(2)	35(3)	183(43)	8(4)	51(8)	145(22)
	1982	83(13)	122(15)	101(12)	41(1)	63(9)	240(34)	10(2)	108(13)	137(21)
	1983	65(4)	46(1)	61(1)	32(3)	25(0)	28(0)	9(0)	47(4)	77(0)
	1984	311(34)	110(9)	90(6)	50(3)	57(2)	110(7)	2(1)	50(6)	127(8)
	1985 <sup>c/</sup>	297(40)	142(14)	126(9)	93(3)	85(15)	319(70)	13(2)	10(4)	84(12)

a/ Figure in parenthesis is the number of jacks included in the total number of fish to the left.  
b/ Flows too low to allow spawning.  
c/ Preliminary, through January 20, 1986.

Table B-12. North migrating Oregon coastal fall chinook index, 1970-1985. Index represents fall chinook runs from the Nehalem River to the Elk River.

Year	Miles Surveyed	Total Adult Count	Adults Per Mile
1970	10.9	889	82.0
1971	10.9	490	45.0
1972	10.9	528	48.4
1973	9.3	662	71.2
1974	10.9	663	60.8
1975	5.8	350	60.3
1976	10.9	435	39.9
1977	10.9	800	73.4
1978	10.9	798	73.2
1979	10.9	920	84.4
1980	10.9	896	82.2
1981	10.9	878	80.6
1982	10.9	945	86.7
1983	10.9	596	54.7
1984	10.9	1,029	94.4
1985 <sup>a/</sup>	10.9	1,282	117.6

a/ Preliminary.

Table B-13. Estimates of inriver run size, catch, and escapement (thousands of fish) of Columbia River adult spring chinook destined for areas above Bonneville Dam, 1971-1985.

Year	Inriver Run Size	Lower River Catch <sup>a/</sup>		Bonneville Dam Count	Mainstem Commercial Treaty Catch	Bonneville Escapement <sup>b/</sup>	Snake River Escapement <sup>c/</sup>	Upper Columbia River Escapement <sup>d/</sup>	Hatchery Escapement <sup>e/</sup>
		Commercial	Sport						
1971	146.5	21.5	15.5	109.5	12.7	96.8	21.8	5.0	8.2
1972	269.5	68.5	22.7	178.3	41.9	136.4	38.5	8.4	20.5
1973	223.8	58.7	29.7	135.4	34.2	101.2	52.8	9.0	19.8
1974	99.8	8.2	12.2	79.4	17.5	61.9	15.5	10.9	6.4
1975	98.0	0.1	0.0	97.9 <sup>f/</sup>	0.1	97.8	16.1	7.7	12.0
1971-75 Average	167.5	31.4	16.0	120.1	21.3	98.8	28.9	8.2	13.4
1976	63.9	0.0	0.0	63.9	0.4	63.5	15.9	11.5	14.8
1977	138.4	8.6	14.2	115.6	17.0	98.6	36.2	20.6	20.1
1978	127.0	0.0	0.0	127.0	2.6	124.4	40.7	21.2	14.1
1979	48.6	0.0	0.0	48.6	0.5	48.1	6.8	7.4	9.3
1980	53.1	0.0	0.0	53.1 <sup>f/</sup>	0.0	53.1	5.5	8.5	11.2
1981	63.6	0.6	0.2	62.8 <sup>f/</sup>	1.6	61.2	13.1	14.5	14.4
1982	71.1	0.5	0.6	70.0	2.6	67.4	12.4	8.7	15.5
1983 <sup>g/</sup>	55.9	0.6	0.4	54.9	<0.1	54.9	9.5	10.4	16.2
1984 <sup>g/</sup>	47.4	0.6	0.3	46.8	0.1	46.7	6.5	12.1	13.0
1985 <sup>g/</sup>	84.7	1.2	0.3	83.2	0.1	83.1	25.2	24.1	30.4
Goal		0.1 to 120.0			30.0 (min.)				

a/ Includes some lower river origin spring chinook through 1980. Beginning in 1981 the lower river catch of upriver spring chinook is based on mark recoveries rather than timing of the catch as in previous years.

b/ Bonneville Dam count minus mainstem commercial treaty Indian harvest.

c/ Count at uppermost Snake River Dam (Little Goose in 1971-1974 and Lower Granite in 1975-1985).

d/ Priest Rapids Dam count.

e/ Includes hatcheries operated by all agencies.

f/ Maximum figure, not adjusted for fallback at the dam.

g/ Preliminary.

Table B-14. Estimates of minimum inriver run size, catch, and escapement (thousands of fish) of Columbia River spring chinook (including jacks) destined for areas below Bonneville Dam, 1971-1985.

Year	Minimum Inriver Run Size	Tributary Runs								
		Lower River Commercial	Catch <sup>a/</sup> Sport	Willamette			Cowlitz <sup>b/</sup>	Lewis	Kalama	Hatchery Escapement <sup>c/</sup>
				Run Size	Sport Catch	Will. Falls Escapement				
1971	98.9	13.4	6.5	67.4	20.2	44.6	11.0	0.1	0.5	16.9
1972	72.9	15.8	0.2	47.1	18.7	26.2	9.3	0.1	0.4	9.3
1973	93.2	17.2	7.4	54.5	10.2	42.0	13.8	0.1	0.2	15.1
1974	115.6	13.3	2.2	71.8	25.2	44.5	27.7	0.1	0.5	33.2
1975	71.6	9.1	2.4	32.7	12.6	19.1	23.1	0.5	3.8	25.9
1971-1975 Average	90.4	13.8	3.7	54.7	17.4	35.3	17.0	0.2	1.1	20.1
1976	86.6	4.7	3.2	40.7	16.4	22.2	30.9	3.2	3.9	29.9
1977	95.4	6.8	3.1	58.1	15.0	40.0	21.7	3.5	2.2	30.2
1978	112.1	13.5	5.0	71.4	19.8	47.5	16.3	4.0	1.9	25.2
1979	73.8	5.5	1.7	44.6	13.1	26.6	16.4	2.6	3.0	19.2
1980	75.4	0.4	0.8	42.5	10.2	27.0	26.3	2.3	3.1	28.4
1981	100.2	6.8	3.5	48.6	12.8	30.1	34.2	3.2	3.9	33.8
1982	117.7	4.6	2.2	72.5	21.4	46.2	24.7	4.4	9.3	31.1
1983 <sup>d/</sup>	98.9	7.0	2.4	56.1	18.3	30.6	26.5	1.8	5.1	27.1
1984 <sup>d/</sup>	113.1	9.1	1.8	74.5	23.7	43.5	22.4	3.5	1.8	33.0
1985 <sup>d/</sup>	87.1	11.6	1.1	57.1	18.0	34.5	16.4	5.7	0.2	20.3
Goal			30.0-35.0							

a/ Includes some upriver origin spring chinook through 1980. Beginning in 1981 the lower river catch of lower river spring chinook is based on mark recoveries rather than timing of the catch as in previous years.

b/ Does not include mini-jacks.

c/ Adults. Includes hatcheries operated by all agencies and are included in the totals for the tributary runs.

d/ Preliminary.

Table B-15. Estimates of inriver run size, catch, and escapement (thousands of fish) of Columbia River adult summer chinook destined for areas above Bonneville Dam, 1971-1985.

Year	Inriver Run Size	Lower River Catch		Bonneville Dam Count	Mainstem Commercial Treaty Catch	Bonneville Escapement <sup>a/</sup>	Snake River Escapement <sup>b/</sup>	Upper Columbia River Escapement <sup>c/</sup>
		Commercial	Sport					
1971	71.9	2.3	3.3	66.3	5.1	61.2	21.4	15.5
1972	67.8	2.2	2.0	63.6	4.0	59.6	18.6	13.4
1973	37.6	0.8	1.5	35.3	1.4	33.9	10.9	12.2
1974	28.9	0.0	0.0	28.9	0.1	28.8	7.6	12.9
1975	33.0	0.0	0.0	33.0 <sup>d/</sup>	0.0	33.0	7.6	18.9
1971-1975 Average	47.8	1.1	1.4	45.4	2.1	43.3	13.2	14.6
1976	26.7	<0.1	0.0	26.7	<0.1	26.6	7.0	17.2
1977	34.3	0.2	0.0	34.1	<0.1	34.1	7.7	16.3
1978	38.7	0.2	0.0	38.5	0.1	38.4	11.6	19.2
1979	27.8	0.1	0.0	27.7	0.0	27.7	2.7	20.3
1980	27.0	0.0	0.0	27.0	0.1	26.9	2.7	16.0
1981	22.4	0.0	0.0	22.4	0.0	22.4	3.3	11.6
1982	20.1	0.0	0.0	20.1	0.0	20.1	4.2	8.8
1983 <sup>e/</sup>	18.0	0.0	0.0	18.0	0.0	18.0	3.9	8.5
1984 <sup>e/</sup>	22.4	0.0	0.0	22.4	0.0	22.4	5.4	15.8
1985 <sup>e/</sup>	24.3	0.0	0.0	24.3	0.7	23.6	5.0	15.2
Goal						80.0-90.0		

a/ Bonneville Dam Count minus mainstem commercial treaty Indian harvest.

b/ Count at uppermost Snake River Dam (Little Goose in 1971-1974 and Lower Granite in 1975-1984).

c/ Priest Rapids Dam count.

d/ Maximum figure, not adjusted for fallback at the dam.

e/ Preliminary.

Table B-16. Estimates of inriver run size, catch, and escapement (thousands of fish) of Columbia River adult Bonneville Pool Hatchery stock fall chinook, 1971-1985.<sup>a/</sup>

Year	Inriver Run Size	Bonneville Dam Count	Harvest			Escapement	
			Treaty Commercial & Susistence	Non-Treaty		Natural	Hatchery
				Commercial	Sport		
1971	115.5	69.6	18.5	45.7	0.3	3.4	12.8
1972	45.7	28.2	13.0	17.3	0.3	3.9	8.9
1973	112.8	59.5	17.9	53.1	0.4	2.2	17.2
1974	70.2	51.2	17.6	18.9	0.2	1.6	11.2
1975	184.1	129.4	78.0	54.7	0.2	3.2	35.0
1971-1975 Average	105.7	67.6	29.0	37.9	0.3	2.9	17.0
1976	182.2	142.1	65.6	40.0	0.2	3.1	24.6
1977	107.7	66.1	19.4	41.5	0.1	1.3	21.5
1978	99.7	76.2	25.5	23.4	0.2	2.4	18.0
1979	95.2	72.8	28.8	22.3	0.1	1.9	18.8
1980	97.8	57.8	23.4	31.8	0.1	2.6	27.0
1981	86.3	82.4	33.1	3.4	0	1.5	25.1
1982	120.8	80.7	48.9	35.7	0.3	2.5	29.4
1983 <sup>b/</sup>	28.8	24.5	7.9	3.6	0.1	1.0	10.1
1984 <sup>b/</sup>	47.3	38.1	19.2	5.7	2.3	0.7	9.6
1985 <sup>b/</sup>	33.0	29.6	13.8	<50	0.2	0.5	5.6

a/ Based on Columbia River fall chinook data base, WDF unpublished.

b/ Preliminary.

Table B-17. Estimates of inriver run size, catch, and escapement (thousands of fish) of Columbia River adult bright fall chinook destined for areas above Bonneville Dam, 1971-1985.<sup>a/</sup>

Year	Inriver Run Size	Bonneville Dam Count	Harvest			Escapement			
			Treaty Commercial & Subsistence	Non-Treaty		Natural	Hatchery	McNary Dam Ct.	Harbor Ice Dam Ct.
				Commercial	Sport <sup>b/</sup>				
1971	115.7	83.3	32.4	31.4	3.5	44.7	4.3	49.0	9.3
1972	86.7	66.0	26.0	19.8	3.4	36.8	0.8	37.6	7.5
1973	147.6	88.6	39.1	58.3	3.7	43.3	3.3	46.6	6.7
1974	89.8	74.0	33.5	15.2	2.5	31.6	3.0	34.6	2.4
1975	112.5	90.1	44.3	21.9	2.4	27.8	1.8	29.6	1.9
1971-1975 Average	110.5	80.4	35.1	29.3	3.1	36.8	2.6	39.5	5.6
1976	115.1	86.6	55.9	28.0	2.1	27.7	1.1	28.8	1.1
1977	95.1	65.9	26.9	28.8	1.1	37.0	0.6	37.6	1.2
1978	85.3	68.7	30.7	16.3	1.3	25.2	2.1	27.3	1.1
1979	89.2	71.2	31.1	17.7	1.0	28.7	2.5	31.2	1.2
1980	76.8	69.9	9.0	5.1	0.9	28.8	2.2	29.9	1.2
1981	66.3	62.5	13.7	2.4	0.7	23.9	3.0	21.1	0.8
1982	78.9	71.8	7.0	4.5	0.2	34.1	3.7	31.1	1.6
1983 <sup>c/</sup>	86.0	77.7	18.1	4.3	0.7	48.3	5.9	48.7	1.8
1984 <sup>c/</sup>	129.3	103.6	35.1	21.9	4.2	47.3	13.9	61.0	1.7
1985 <sup>c/</sup>	193.1	156.0	58.3	31.5	8.1	78.2	14.1	94.6	2.0
Goal	40.0								

a/ Based on Columbia River fall chinook data base, WDF unpublished data. Does not include egg bank upriver bright chinook.

b/ Includes tributary and mainstem catches.

c/ Preliminary.

Table B-18. Estimates of inriver run size, catch, and escapement (thousands of fish) of lower Columbia River adult hatchery stock fall chinook, 1971-1985.<sup>a/</sup>

Year	Inriver Run Size	Harvest			Escapement	
		Treaty Commercial	Non-Treaty		Natural	Hatchery
			Commercial	Sport <sup>b/</sup>		
1971	181.0	0	83.8	5.8	35.8	55.6
1972	151.6	0	62.5	5.0	42.9	41.2
1973	215.1	0	119.8	4.9	40.3	50.1
1974	154.2	0	51.3	5.3	63.4	34.2
1975	183.5	0	73.1	6.0	69.6	34.8
1971-1975 Average	175.9	0	78.1	5.4	49.2	43.2
1976	171.0	0	63.3	5.3	50.8	51.6
1977	165.1	0	74.5	3.9	44.5	42.2
1978	166.5	0	58.3	5.8	43.2	59.2
1979	118.7	0	43.9	4.0	25.3	45.5
1980	105.5	0.1	57.0	2.9	20.9	24.6
1981	94.8	1.0	21.5	2.9	26.5	42.6
1982	139.5	1.0	47.4	3.9	44.1	42.6
1983 <sup>c/</sup>	88.0	0.8	14.9	1.5	33.7	36.6
1984 <sup>c/</sup>	105.2	1.4	29.1	9.2	32.1	27.4
1985 <sup>c/</sup>	108.3	0.1	14.7	5.6	52.3	35.1

a/ Based on Columbia River fall chinook data base, WDF, unpublished.

b/ Includes tributary catches.

c/ Preliminary.

Table B-19. Estimates of inriver run size, catch, and escapement (thousands of fish) of lower Columbia adult wild stock fall chinook, 1971-1985.<sup>a/</sup>

Year	Inriver Run Size	Harvest			Escapement	
		Treaty	Non-Treaty		Natural	Hatchery
		Commercial	Commercial	Sport <sup>b/</sup>		
1971	107.5	0	50.7	4.8	51.8	0.2
1972	79.3	0	35.2	2.0	41.0	0.1
1973	48.6	0	28.7	1.4	18.4	0.1
1974	26.9	0	9.7	0.9	16.3	0
1975	36.8	0	15.2	1.5	20.1	0
1971-1975 Average	59.7	0	27.9	2.1	29.4	0.1
1976	14.9	0	6.1	0.6	8.2	0
1977	29.8	0	14.4	1.1	14.2	0.1
1978	18.5	0	7.1	1.1	10.1	0.2
1979	32.8	0	12.6	2.0	17.9	0.3
1980	38.8	0.1	18.4	1.4	18.2	0.6
1981	25.0	0	1.4	1.1	21.5	0.9
1982	13.0	0	1.2	1.0	10.4	0.3
1983 <sup>c/</sup>	16.8	0	0.6	1.5	14.1	0.6
1984 <sup>c/</sup>	13.3	0	2.9	1.8	8.5	0.2
1985 <sup>c/</sup>	13.1	0	3.3	1.2	8.2	0.4

a/ Based on Columbia River fall chinook data base, WDF unpublished.

b/ Includes tributary catches.

c/ Preliminary.

Table B-20. Estimates of minimum inriver run size, catch, and escapement (thousands of fish) of adult coho entering the Columbia River, 1971-1985.<sup>a/</sup>

Year	Min. Inriver Run Size	Below Bonneville Dam				Above Bonneville Dam			
		Lower River Catch <sup>b/</sup>		Lower River Escapement		Bonneville Dam Count	Mainstem Com. Treaty Catch	Bonneville Escapement <sup>e/</sup>	Hatchery Escapement <sup>c/</sup>
		Commerical	Sport	Hatchery <sup>c/</sup>	Trib. Dam Counts <sup>d/</sup>				
1971	528.4	264.3	1.4	187.6	21.3	53.8	13.1	40.7	20.4
1972	268.7	131.3	0.9	91.3	11.0	34.2	8.7	25.5	6.2
1973	283.8	183.7	0.3	68.2	5.8	25.8	11.1	14.7	4.6
1974	448.3	261.0	0.5	152.8	2.4	31.6	6.8	24.8	10.0
1975	282.4	156.6	0.6	85.4	7.0	32.8	5.7	27.1	16.7
1971-1975 Average	362.3	199.4	0.7	117.1	9.5	35.6	9.1	26.6	11.6
1976	326.2	168.4	0.3	117.3	3.5	36.7	4.0	32.7	14.4
1977	87.8	39.0	0.5	37.1	1.9	9.3	1.0	8.3	2.0
1978	298.3	132.7	1.0	131.4	2.9	30.3	3.7	26.6	7.8
1979	262.5	127.6	0.2	101.1	4.0	29.6	3.9	25.7	7.5
1980	288.7	150.1	0.1	120.4	5.1	13.0	0.3	12.7	3.4
1981	162.5	59.8	0.1	77.9	2.8	21.9	1.8	20.1	9.2
1982	435.6	201.7	19.0	154.1	5.0	55.8	4.3	51.5	32.4
1983 <sup>f/</sup>	94.6	6.6	2.9	74.2	2.5	13.6	0.2	8.2	2.3
1984 <sup>f/</sup>	382.9	189.1	75.1	98.5	3.5	25.5	1.6	15.1	7.1
1985 <sup>f/</sup>	353.7	190.0	26.5	91.1	7.6	38.5	4.6	33.9	11.6

a/ These numbers differ slightly from the OPI data base since no adjustments were made to the escapement figures.

b/ Includes some upriver origin coho. Sport catches listed in this table are mainstem only and include catches in the Buoy 10 area which were 74,400 coho in 1984 and 25,400 in 1985.

c/ Includes hatcheries operated by all agencies.

d/ Willamette Falls, Clackamas River (N.F. Dam), and Sandy River (Marmot Dam).

e/ Bonneville Dam count minus mainstem commercial treaty Indian harvest.

f/ Preliminary.

Table B-21. Willapa Bay fall chinook run size, harvest, and escapement, 1976-1985.

Year	Nonlocal Stocks Gillnet	Terminal		Escapement		Terminal Run Size
		Gillnet	Sport	Natural <sup>a/</sup>	Hatchery	
1976	13,200	15,800	400	2,600	3,800	22,600
1977	20,600	10,700	500	2,000	6,800	20,000
1978	2,000	9,400	600	4,400	6,000	20,400
1979	3,700	14,300	400	3,500	5,300	23,400
1980	8,800	15,500	200	3,400	6,000	25,200
1981	4,200	12,800	300	2,800	4,200	20,000
1982	1,900	7,600	600	2,700	4,600	15,600
1983	200	2,200	900	3,100	6,200	12,500
1984	400	3,600	200	NA	9,500	19,200
1985 <sup>b/</sup>	200	8,400	NA	NA	6,100	NA
Goal				NA		

a/ Includes hatchery strays to natural spawning areas.

b/ Preliminary.

B-22. Willapa Bay coho run size, harvest, and escapement, 1976-1985.

Year	Terminal		Escapement		Terminal Run Size
	Gillnet	Sport <sup>a/</sup>	Natural	Hatchery	
1976	9,000	800	7,000	10,100	26,900
1977	3,100	600	2,300	4,400	10,400
1978	7,000	600	3,300	7,600	18,500
1979	31,100	4,800	6,600	23,600	66,100
1980	25,000	800	5,000	15,200	46,000
1981	30,000	700	7,500	22,900	61,100
1982	70,000	3,600	2,100	33,400	109,100
1983	9,000	2,100	1,100	18,600	30,800
1984	50,600	2,900	0	33,400	86,900
1985 <sup>a/</sup>	34,800	NA	NA	24,900	NA
Goal			0	8,000	

a/ Adults.

b/ Preliminary.

Table B-23. Grays Harbor chinook terminal run size, catch, and escapement.

Race	Year	Terminal Catch				River Sport <sup>a/</sup>	Escapement		Terminal Run Size
		Early Non-Local	Gillnet Non-treaty	Gillnet Treaty	Chehalis		Natural <sup>a/</sup>	Hatchery	
Spring/Summer 1973-1975 Average			0	0	500	<50	400	0	800
	1976		0	0	400	<50	600	0	1,000
	1977		0	0	900	<50	800	0	1,700
	1978		0	0	600	<50	1,000	0	1,600
	1979		0	0	800	<50	400	0	1,100
	1980		0	0	300	<50	200	0	600
	1981		0	0	300	<50	600	0	900
	1982		0	0	50	<50	600	0	600
	1983		0	0	50	<50	800	0	900
	1984		0	0	0	<50	1,000	0	1,000
	1985 <sup>c/</sup>		0	0	50	<50	NA	0	NA
Goal							1,400		
Fall 1973-1975 Average		1,800	8,900	1,000	1,100	1,000	5,200	0	16,300
	1976	5,300	2,900	3,100	400	800	1,800	0	9,000
	1977	13,500	1,800	4,100	1,300	1,000	5,200	200	13,500
	1978	900	700	2,700	1,100	2,000	4,600	200	11,200
	1979	900	0	100	1,400	1,300	9,400	100	12,400
	1980	1,500	3,700	5,700	800	800	11,700	1,100	23,700
	1981	1,600	600	3,600	700	200	7,600	800	13,200
	1982	600	3,100	4,600	700	200	5,600	400	14,600
	1983	100	100	3,300	300	100	4,500	600	9,000
	1984	500	200	1,000	300	400	21,000	800	23,600
	1985 <sup>c/</sup>	100	100	5,300	400	NA	NA	1,100	NA
Goal							14,600		

a/ Three-year olds and older.

b/ Minimum estimate due to river sport. Not including non-local catch.

c/ Preliminary.

Table B-24. Grays Harbor coho terminal run size, catch, and escapement estimates, 1976-1985.

Year	Gillnet Harvest			Sport <sup>a/</sup> Harvest	Escapement		Terminal Run Size
	Non-treaty	Treaty	Chehalis		Natural	Hatchery	
1976	13,800	14,600	4,000	2,700	43,900	2,500	81,500
1977	1,500	2,500	1,500	800	26,800	400	33,500
1978	800	4,300	1,900	2,300	11,700	7,300	28,300
1979	0	3,300	5,900	5,200	35,400	28,400	78,200
1980	10,000	24,100	4,200	1,700	29,400	8,200	77,600
1981	3,000	25,800	3,200	900	12,900	19,900	65,800
1982	17,400	26,100	6,000	3,100	18,100	11,300	82,000
1983	1,800	11,800	800	1,800	25,400	14,800	56,300
1984 <sup>b/</sup>	3,200	6,600	3,400	16,200	105,200	36,100	170,700
1985 <sup>b/</sup>	500	9,200	900	NA	NA	7,900	NA
Goal					35,400		

a/ Adults.

b/ Preliminary.

Table B-25. Estimated inriver run size, catch, and escapement (thousands of fish) of Quinault, Queets, Hoh, and Quillayute river coho stocks, 1976-1985.

Stock by Year	Terminal Catch			Escapement		Terminal Run Size			
	Gillnet	Ceremonial & Subsistence		River Sport	Natural	Hatchery	Natural	Hatchery	Total
<u>Quinault<sup>a/</sup></u>									
1976	NA								
1977	1.9			1.5	0.3	3.0	0.6	3.6	
1978	6.9			2.5	1.6	6.6	4.2	10.9	
1979	17.8			7.2	4.7	18.0	11.7	29.7	
1980	12.4			2.5	4.9	6.3	13.4	19.7	
1981	10.4			2.2	7.3	4.5	15.4	19.9	
1982	11.0			7.2	4.9	14.4	8.7	23.2	
1983	3.7			7.0	6.4	9.0	8.1	17.1	
1984	21.1			3.2	9.8	7.8	26.2	34.0	
1985 <sup>b/</sup>	7.3			NA	NA	NA	NA	NA	
Goal				Hatchery Production					
<u>Queets<sup>c/d/</sup></u>									
1976	2.9	NA	0.1	1.2	0.1	41.0	0.3	4.4	
1977	1.0	NA	0.1	1.9	0.3	2.6	0.5	3.1	
1978	2.4	NA	0.1	2.7	0.6	4.1	0.9	5.0	
1979	2.7	0.1	0.2	6.8	1.6	8.7	2.1	10.8	
1980	3.2	<0.05	0.2	4.7	2.4	6.0	4.4	10.4	
1981	4.2	NA	0.2	4.8	2.4	6.1	4.5	10.5	
1982	1.6	NA	0.05	7.0	4.5	7.8	5.4	13.2	
1983	1.0	<0.05	<0.05	2.3	1.1	2.4	1.8	4.2	
1984	1.3	<0.05	<0.05	9.2	4.0	9.7	4.4	14.1	
1985 <sup>e/</sup>	3.8	<0.05	0.3	4.0	1.7	6.1	3.4	9.5	
Goal				5.8 to 14.5					
<u>Hoh<sup>c/</sup></u>									
1976	1.8	<0.05	0.1	2.3	0.0	4.2	0.0	4.2	
1977	1.0	<0.05	<0.05	2.4	0.0	3.4	0.0	3.4	
1978	2.8	0.1	<0.05	2.1	0.0	5.1	0.0	5.1	
1979	2.9	0.1	0.1	5.0	0.4	8.2	0.9	9.1	
1980	1.3	0.1	<0.05	1.7	0.1	2.6	0.6	3.2	
1981	2.1	<0.05	<0.05	1.9	0.1	3.3	0.8	4.1	
1982	2.0	0.1	<0.05	3.6	0.1	5.4	0.4	5.8	
1983	0.1	<0.05	<0.05	1.7	0.3	1.8	0.3	2.2	
1984	0.3	<0.05	<0.05	7.4	0.0	7.8	<0.05	7.8	
1985 <sup>e/</sup>	3.4	<0.05	0.1	2.1	0.0	5.5	<0.1	5.6	
Goal				2.0 to 5.0					

Table B-25. (continued)

Stock by Year	Terminal Catch			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River Sport	Natural	Hatchery	Natural	Hatchery	Total
				Quillayute <sup>f/g/h/</sup>				
(summer run)								
1976	0.6	<0.05	<0.05	1.2	0.9	1.6	1.2	2.8
1977	1.2	<0.05	<0.05	1.0	1.0	1.6	1.6	3.2
1978	0.6	<0.05	0.1	1.5	1.0	1.9	1.3	3.2
1979	10.9	0.1	0.6	1.5	9.7	3.0	19.8	22.8
1980	12.1	0.1	0.5	0.8	9.0	1.8	20.7	22.5
1981	2.4	<0.05	0.1	0.8	0.5	2.4	1.5	3.9
1982	12.6	0.1	0.1	0.9	3.7	3.4	14.0	17.4
1983	0.4	<0.05	0.1	0.8	4.1	0.8	4.6	5.4
1984	4.0	<0.05	0.2	1.0	4.5	1.7	8.0	9.7
1985 <sup>e/</sup>	1.8	<0.05	0.1	0.3	0.8	1.2	1.8	3.0
Goal	Hatchery Production							
Quillayute <sup>f/g/h/</sup>								
(fall run)								
1976	8.5	0.1	0.1	3.9	1.2	10.4	3.3	13.7
1977	2.9	<0.05	<0.05	3.5	0.4	6.2	0.7	6.8
1978	4.4	<0.05	0.1	10.3	3.5	13.7	4.6	18.3
1979	7.0	0.1	0.1	20.2	5.0	26.0	6.4	32.4
1980	6.9	0.1	0.1	7.5	2.1	13.1	3.7	16.7
1981	3.7	<0.05	0.2	6.4	0.6	10.0	1.0	11.0
1982	4.5	<0.05	0.2	10.4	2.1	14.3	2.9	17.2
1983	0.7	<0.05	<0.05	2.7	0.9	3.2	1.1	4.3
1984	0.4	<0.05	0.1	10.5	7.3	10.9	7.5	18.4
1985 <sup>e/</sup>	8.8	<0.05	0.3	7.5	0.3	15.3	1.6	16.9
Goal	6.3 to 15.8							

a/ Ceremonial and subsistence included in gillnet catch. Sport catch negligible.

b/ Preliminary.

c/ Sport catch of adults.

d/ Natural escapement and run-size estimates include fish taken for broodstock.

e/ Preliminary. Incomplete spawning escapement surveys indicate actual natural escapement may be lower.

f/ Sport catch predominantly fish under 24 inches in total length.

g/ Natural escapement includes hatchery strays.

h/ Hatchery terminal run size excludes hatchery strays.

Table 8-26. Estimated inriver run size, catch, and escapement (thousands of fish) of Queets, Hoh, and Quillayute spring and summer chinook, 1976-1985.

Year	Terminal Catch			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River Sport <sup>a/</sup>	Natural	Hatchery	Natural	Hatchery	Total
<u>Queets<sup>a/</sup></u>								
1976	0.2	<0.05	0.1	0.5	0	0.7	0	0.7
1977	0.4	<0.05	0.05	0.7	0	1.2	0	1.2
1978	0.2	<0.05	0.1	1.1	0	1.4	0	1.4
1979	0.5	<0.05	0.1	0.9	0.1	1.4	0.2	1.6
1980	0.1	<0.05	0.1	1.0	0	1.2	0	1.2
1981	0.3	<0.05	<0.05	1.0	0	1.3	0	1.3
1982	0.5	<0.05	<0.05	0.8	0.1	1.2	0.2	1.4
1983	0.1	<0.05	<0.05	1.0	<0.05	1.2	<0.05	1.2
1984	0.1	<0.05	0.1	1.0	0	1.2	0	1.2
1985 <sup>b/</sup>	0.2	<0.05	0.1	0.9	0	1.2	0	1.2
Goal				0.7 <sup>c/</sup>				
<u>Hoh<sup>d/</sup></u>								
1976	0.5	<0.05	0.1	0.6	0	1.3	0	1.3
1977	0.9	<0.05	<0.05	1.0	0	2.0	0	2.0
1978	1.0	0.1	0.1	1.4	0	2.6	0	2.6
1979	0.7	0.1	0.1	1.4	0	2.3	0	2.3
1980	0.1	<0.05	0.1	0.8	0	1.0	0	1.0
1981	0.4	0.1	<0.05	1.5	<0.05	2.1	0.1	2.2
1982	0.6	<0.05	0.1	1.6	0.1	2.3	0.2	2.5
1983	0.5	<0.05	0.1	1.8	0.1	NA	0.1	2.6
1984	0.4	<0.05	0.3	1.5	0	2.4	0	2.5
1985 <sup>b/</sup>	0.3	<0.05	0.2	1.1	<0.05	1.7	<0.05	1.8
Goal				0.9 <sup>e/</sup>				
<u>Quillayute<sup>f/</sup></u>								
1976	2.4	<0.05	0.8	1.3	1.8	1.7	4.6	6.3
1977	3.2	<0.05	0.4	3.8	0.9	5.3	3.0	8.3
1978	3.4	<0.05	0.4	2.3	0.7	2.7	4.1	6.8
1979	2.6	<0.05	0.2	2.1	0.2	3.9	1.2	5.1
1980	1.0	<0.05	0.1	0.9	0.4	1.5	1.0	2.5
1981	1.0	<0.05	0.1	0.8	0.3	1.7	0.6	2.3
1982	1.7	<0.05	0.1	1.2	0.1	2.7	0.5	3.2
1983	0.4	<0.05	0.1	1.4	0.2	1.8	0.4	2.2
1984	0.3	<0.05	0.3	0.6	0.4	1.0	0.5	1.5
1985 <sup>b/</sup>	0.1	<0.05	<0.05	0.6	0.3	0.7	0.4	1.1
Goal				1.5 <sup>g/</sup>				

a/ Sport catch of adults.

b/ Preliminary.

c/ Minimum. Terminal run managed at 30 percent exploitation rate.

d/ Sport catch predominantly fish under 28 inches in total length.

e/ Minimum. Terminal run managed at 31 percent exploitation rate.

f/ Natural escapement includes hatchery strays, hatchery escapement, and terminal run size excludes hatchery strays.

g/ WDF goal. Includes jacks.

Table B-27. Estimated inriver run size, catch, and escapement (thousands of fish) of Queets, Hoh, and Quillayute fall chinook, 1976-1985.

Year	Catch			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River Sport <sup>a/</sup>	Natural	Hatchery	Natural	Hatchery	Total
<u>Queets<sup>a/</sup></u>								
1976	1.3	NA	<0.05	1.2	0	2.5	0	2.5
1977	2.0	NA	<0.05	3.6	0	5.5	0	5.5
1978	0.9	NA	0.1	2.2	0	3.1	0	3.1
1979	0.9	0.1	<0.05	3.9	0	4.7	0	4.7
1980	2.6	NA	<0.05	3.2	0	5.8	0	5.8
1981	3.8	NA	0.1	4.3	0.1	8.0	0.2	8.2
1982	2.3	NA	0.2	4.1	0.2	6.2	0.4	6.6
1983	1.3	<0.05	0.2	2.6	0.3	3.8	0.6	4.4
1984	1.6	<0.05	0.1	3.9	0.6	5.3	1.0	6.2
1985 <sup>b/</sup>	1.5	<0.05	0.2	3.9	0.5	5.4	0.7	6.1
Goal				2.5 <sup>c/</sup>				
<u>Hoh</u>								
1976	0.5	<0.05	0.1	2.5 <sup>d/</sup>	0	3.1	0	3.1 <sup>e/</sup>
1977	1.6	<0.05	0.1	2.1 <sup>d/</sup>	0	3.8	0	3.8 <sup>e/</sup>
1978	0.8	0.1	0.1	1.9 <sup>d/</sup>	0	2.9	0	2.9 <sup>e/</sup>
1979	0.4	<0.05	0.1	1.7 <sup>d/</sup>	0	2.2	0	2.2 <sup>e/</sup>
1980	0.5	<0.05	0.1	2.2	0	2.8	0	2.8
1981	0.8	<0.05	<0.1	3.1	0	4.0	0	4.0
1982	1.2	<0.05	<0.1	4.5	<0.05	5.8	0.1	5.9
1983	0.5	<0.05	0.2	2.5	<0.05	3.3	0.1	3.4
1984	0.8	<0.05	0.2	1.9	<0.05	2.6	0.1	2.7
1985 <sup>b/</sup>	1.1	1.0	0.2	2.3	<0.05	3.6	0.1	3.7
Goal				1.2 <sup>c/</sup>				
<u>Quillayute<sup>e/</sup></u>								
1976	2.3	<0.05	0.3	2.5	0.05	4.7	0.4	5.1
1977	5.4	<0.05	0.1	3.3	0.2	7.6	1.4	9.0
1978	1.5	<0.05	0.3	4.7	0.3	6.2	0.5	6.7
1979	2.7	<0.05	0.2	3.9	0.1	6.6	0.2	6.9
1980	1.3	<0.05	0.2	6.7	<0.05	7.6	0.7	8.3
1981	1.3	<0.05	0.1	5.7	0.1	6.9	0.4	7.3
1982	2.6	<0.05	0.1	7.1	0.2	9.6	0.3	9.9
1983	2.5	<0.05	0.1	2.9	0.3	5.6	0.3	5.9
1984	1.4	<0.05	0.1	9.1	0.1	10.3	0.4	10.7
1985 <sup>b/</sup>	2.4	<0.05	0.3	5.5	0.1	8.1	0.2	8.3
Goal				3.0 <sup>c/</sup>				

a/ River sport catch of fish three-year olds and older. Includes fish taken for broodstock.  
b/ Preliminary, escapement and run-size estimates based on inseason data.  
c/ Minimum. Terminal run managed at 40 percent exploitation rate.  
d/ Revised estimates based upon recent adjustments in methodology.  
e/ Natural escapement includes hatchery strays, hatchery escapement, and hatchery terminal run size excludes hatchery strays.

Table B-28. Treaty Indian gillnet catch of chinook, chum, and sockeye (thousands of fish) in the Quinault River, 1971-1985 and the 1971-1975 average.

Year	Spring Chinook <sup>a/</sup>	Fall Chinook <sup>a/</sup>	Chum	Sockeye
1971-1975 Average	0.2 <sup>b/</sup>	2.1	2.0	27.5
1976	0.1	3.2	7.4	14.8
1977	0.1	6.0	3.6	30.5
1978	0.3	6.9	13.7	21.0
1979	0.3	6.5	3.2	4.7
1980	0.3	4.4	11.9	16.8
1981	0.2	5.3	4.5	21.7
1982	0.2	5.5	7.4	15.3
1983	<0.1	4.4	3.7	0.4
1984	0.2	5.5	4.3	0.9
1985 <sup>c/</sup>	0.1	4.8	3.7	NA

a/ Preliminary. Stock separation under review.

b/ Average for 1973-1975.

c/ Preliminary.

Table B-29. Puget Sound commercial net fishery salmon catches (thousands of fish), 1981-1985 and three recent five-year averages.<sup>a/</sup>

Year		Thousands of Fish				
		Chinook	Coho	Pink	Chum	Sockeye
1971-1975 Average	Treaty Non-Indian	103.9	523.6	1,942.9 <sup>b/</sup>	331.1	2,159.0
	Treaty Indian	54.0	224.7	114.4 <sup>b/</sup>	78.2	37.8
	Total	157.9	748.3	2,057.3 <sup>b/</sup>	409.3	2,196.8
1976-1980 Average	Treaty Non-Indian	103.5	413.4	2,626.1 <sup>b/</sup>	408.0	1,095.6
	Treaty Indian	126.1	488.5	464.4 <sup>b/</sup>	294.9	277.8
	Total	229.6	901.9	3,090.5 <sup>b/</sup>	702.9	1,373.4
1981	Treaty Non-Indian	76.7	276.5	2,725.9	222.7	755.8
	Treaty Indian	137.6	467.3	1,172.7	274.2	549.1
	Total	214.3	743.8	3,898.6	496.9	1,304.9
1982	Treaty Non-Indian	81.6	394.1	0.0	531.3	1,476.0
	Treaty Indian	123.1	746.0	0.0	445.3	1,392.1
	Total	210.6	1,140.1	0.0	976.6	2,868.1
1983	Treaty Non-Indian	48.5	337.3	1,033.5	211.7	181.4
	Treaty Indian	129.2	588.5	790.5	274.4	220.7
	Total	177.7	925.8	1,824.0	486.1	402.1
1984 <sup>c/</sup>	Treaty Non-Indian	73.5	296.9	.1	320.7	846.4
	Treaty Indian	146.4	482.7	<.1	462.9	851.4
	Total	219.9	779.6	.2	783.6	1,697.8
1985 <sup>c/</sup>	Treaty Non-Indian	72.9	422.2	1,974.6	555.5	1,365.2
	Treaty Indian	151.4	733.3	2,185.9	521.9	1,549.5
	Total	224.3	1,155.5	4,170.5	1,077.4	2,914.7
1981-1985 Average	Treaty Non-Indian	70.6	372.1	1,914.7 <sup>b/</sup>	341.7	925.0
	Treaty Indian	140.2	561.3	1,383.0 <sup>b/</sup>	438.0	912.6
	Total	210.8	933.4	3,297.7 <sup>b/</sup>	779.7	1,837.6

a/ Data do not reflect treaty allocations. Includes U.S. and Canadian-origin salmon and fish caught in test fisheries.

b/ Odd-year average.

c/ Preliminary data.

Table B-30. Summary of Puget Sound marine recreational salmon catches (thousands of fish), 1971-1985 and the 1971-1975 average.<sup>a/</sup>

Year	Species		
	Chinook	Coho	Pink
1971-1975 Average	225.6	119.3	
1976	307.2	223.9	0.2
1977	196.1	177.3	24.0
1978	228.7	223.6	0.1
1979	285.7	258.2	69.6
1980	244.5	118.2	0.2
1981	164.4	177.4	25.5
1982	120.2	209.7	0
1983	194.5	274.1	16.5
1984	174.6	140.7	0.1
1985	NA	NA	NA

a/ Washington Department of Fisheries Statistical Areas 5-13, which include the Strait of Juan de Fuca, San Juan Islands, and inner Puget Sound.

Table B-31. Commercial catches and spawning escapements for hatchery and natural Puget Sound origin chinook, coho, and pink salmon stocks, 1978-1985.<sup>a/</sup>

Species	Year	Hatchery <sup>b/</sup>		Natural		Total Catch	Total Escapement	Total Run
		Catch	Escapement	Catch	Escapement			
Chinook	1978	80,673	25,785	62,875	36,933	143,548	62,718	206,266
	1979	51,075	38,415	73,882	44,406	124,957	82,821	207,778
	1980	88,852	43,226	77,767	54,829	166,619	98,055	264,674
	1981	88,145	43,341	58,444	26,489	146,589	69,830	216,419
	1982	76,671	42,957	66,092	31,320	142,763	74,277	217,040
	1983	62,466	45,815	57,198	35,326	119,664	81,141	200,805
	1984	107,077	55,242	58,376	42,286	165,453	97,528	262,981
	1985 <sup>c/</sup>		43,100			173,201		276,500
Coho	1978	429,536	132,900	181,768	133,800	611,304	266,700	878,004
	1979	401,619	137,600	229,273	276,400	630,892	414,000	1,044,892
	1980	564,465	230,600	405,356	240,300	969,821	470,900	1,440,721
	1981	428,027	217,100	165,232	131,000	593,259	348,100	948,559
	1982	709,000	149,400	292,947	170,015	1,001,947	319,415	1,321,362
	1983	608,322	148,300	250,105	243,510	858,427	391,810	1,250,237
	1984	548,279	201,600	218,259	212,058	766,538	413,658	1,180,196
	1985 <sup>c/</sup>		127,100			995,526		1,388,100
Pink	1979	3,776	5,775	531,389	771,560	535,165	777,335	1,312,500
	1980							
	1981	2,655	1,185	231,067	244,751	233,722	245,936	479,658
	1982							
	1983	686	1,067	508,826	484,501	509,512	485,568	995,080
	1984							
1985 <sup>c/</sup>	NA	1,747	NA	NA	476,580	NA	1,313,000	

a/ Includes treaty Indian and non-treaty commercial catches during the adult accounting period. Pink salmon data is provided for odd years only beginning in 1979.

b/ Includes estimated off-station returns.

c/ Preliminary data, catches, and escapements not yet allocated between hatchery and wild stocks. Total run size reflects final inseason estimate which does not include final wild escapement estimates.